
U.S. Department of the Interior • U.S. Geological Survey

MINERAL INDUSTRY SURVEYS

Gordon P. Eaton, Director

Reston, VA 20192

For information, contact:

Earle B. Amey, Gold Specialist, (703) 648-4969, Fax: (703) 648-7757

Robert G. Reese, Silver and Platinum Group Metals Specialist (703) 648-4881

E-mail: eamey@usgs.gov

E. J. Hemphill (Data), (703) 648-7974

MINES-DATA: (703) 648-7799

MINES FaxBack: (703) 648-4999

Internet: <http://minerals.er.usgs.gov/minerals>

PRECIOUS METALS IN NOVEMBER 1996

Domestic

U.S. mines produced 26,300 kilograms of gold and 128,000 kilograms of silver in November.

In a November 14 news release, Santa Fe Pacific Gold Corp., Albuquerque, NM, announced that the new Sage mill at the Twin Creeks Mine, in Nevada, had started processing oxide ore. Approximately 160,000 to 190,000 metric tons of oxide ore, at an average grade of 2.5 grams of gold per ton, is expected to have been processed by the end of the fourth quarter of 1996, yielding about 310 to 470 kilograms (10,000 to 15,000 troy ounces) of gold. The Sage mill is part of a 4-year Twin Creeks sulfide expansion project, construction of which began in late 1994. This sulfide project, which included the addition of a larger capacity mining fleet in 1995, reportedly will enable Twin Creeks to process refractory ores that contain about 220 tons (7 million ounces) of gold reserves, approximately two-thirds of the total reserves at Twin Creeks.

Hecla Mining Co. will accelerate development of the Gold Hunter silver deposit near its Lucky Friday Mine in Idaho. More than 20 drill-hole intercepts into the main Gold Hunter vein have cored minable ore over a 3.7-meter width. Mining is expected to begin in 1997.¹

Hecla Mining Co., Coeur d'Alene, ID, and Santa Fe Pacific Gold Corp., Albuquerque, NM, have signed the final agreement to develop the Rosebud project, an underground, high-grade oxide gold deposit 50 miles west of Winnemucca, NV. The mine is slated to produce an average of 3,100 kilograms (100,000 ounces) of gold per year for 5 years. Initial production will begin in the second quarter of 1997.²

In a November 21 news release, Alta Gold Co., Henderson, NV, announced the acquisition of the Excalibur gold property, located southwest of Mina, in Mineral County, NV. Excalibur is a grass roots exploration property that presently includes 62 unpatented mining claims. Its mineralization occurs in what the

company says is an unusually large gold-bearing jasperoid breccia cutting the Triassic Excelsior Formation over a central area approximately 300 meters wide and 900 meters long.

International

Lihir Gold Ltd. projected 1997 gold production at 4,670 kilograms (150,000 ounces) from its rich gold deposit in Papua New Guinea. Commissioning of the facilities for the processing of oxide ore is scheduled for May 1997.³

In a November 8 news release, Freeport-McMoRan Copper & Gold Inc. (FCX), New Orleans, LA, announced that the Amole tunnel, which is being driven from a point near the mill into the Grasberg orebody, in Indonesia, has intersected the fringes of heavy sulfide "skarn-type" mineralization. The mineralization averaged 1.40% copper and 0.91 gram of gold per ton.

Cathedral Gold Corp. announced on November 28 that drilling work is underway at the Porcher Island gold project, 24 kilometers southwest of Prince Rupert, British Columbia. Current reserves at Porcher Island stand at 1.5 million tons grading 6.4 grams of gold per ton. Drilling and underground development are planned during 1997.

Royal Oak Mines intends to close its Hope Brook gold mine in Newfoundland near the end of 1997. The mill and mine equipment will be relocated to the company's Matachewan Project in Ontario, which the company expects to be producing 3,100 kilograms (100,000 ounces) of gold in the second half of 1998 at an estimated total cost of \$7.30 per gram (\$227 per ounce).⁴

In a November 12 press release, Echo Bay Mines Ltd., Englewood, CO, announced that it had increased its equity interest in Minefinders Corp. Ltd. to have the right to acquire 60% of the Dolores gold exploration property in the State of Chihuahua, Mexico. The C\$2.4 million transaction provides

funding for continued exploration, contingent on positive results from the first phase of drilling.

First Dynasty Mines, Vancouver, British Columbia, has agreed to acquire the interest previously held by Bakyrchik Gold PLC, United Kingdom, in a consortium to explore and develop the Vasilkovskoye gold deposit in Kazakstan. The Vasilkovskoye deposit has estimated minable reserves of 100 million tons grading 2.4 grams of gold per ton—equivalent to 220 tons (7 million ounces) of gold.⁵

In a November 18 news release, Delgratia Mining, Vancouver, British Columbia, reported that four extensive gold zones have been delineated from sampling of approximately one-half of the 160,000-hectare La Batea concession in central Nicaragua. The LaBatea concession adjoins Greenstone Resources' La Libertad Mine concession.

According to the World Council's latest *Gold Demand Trends*, world gold demand fell 3% during the first 9 months of 1996 compared to demand in the same period in 1995. Demand in developing countries in Asia, the Middle East, and Latin America set a new record; however, demand in the developed markets, including those in Japan, the United States, and parts of Western Europe, fell.⁶

Chinese authorities closed 498 illegal gold mines and arrested 678 prospectors in Henan and Shaanxi Provinces to mitigate gold being wasted through crude extraction techniques that recovered only half as much gold as at State mines. In the past decade, more than 50 tons of gold have been lost in these Provinces alone. Mercury and cyanide levels in waters around the illegal mines were high.⁷

Update

The organizing committee for the Sydney 2000 Olympic games has signed a Memorandum of Agreement with the Royal Australian Mint and the Perth Mint to produce 240,000 10-gram gold coins, 1.6 million 1-ounce silver coins, and 28 different base metal coins. The gold coins feature 8 different sporting theme designs. The silver coins feature 16 different Australian icons and other cultural themes.⁸

According to Valery Rudakov, former head of the country's

Soviet-era gold administration, Russia's gold industry is badly managed and has too many small players. Currently, there are 650 producers licensed to mine gold in Russia, but less than 15 major companies control about half the country's aggregate gold output, while the majority of companies are just surviving.⁹

The U. S. Government, pursuant to 50 U.S. C. 98, disposed of 7 million ounces of silver held in its National Defense Stockpile through the production of coinage for its commemorative and bullion programs in 1995. Based on the yearly average reduction of silver stocks in the Stockpile during 1985 to 1995, The Silver Institute forecasts that silver stocks will be depleted by the end of the first quarter of 2000. Regardless of when the silver stocks are depleted in the Stockpile, the U.S. Mint will eventually turn to the silver market to satisfy its coin production needs.¹⁰

Nelson Gold resumed operations at the Jilau open-pit mine in Tajikistan and exported 12,700 ounces of gold bullion from the mine. Nelson Gold's president, Glenn Laing, says it is the largest single private shipment of gold from the former Soviet Union. A carbon-in-leach plant is operating at the Jilau mine at design capacity, and construction of a heap-leach facility is underway.¹¹

¹Engineering & Mining Journal. This Month In Mining. V. 197, No. 11, Nov. 1996, p. 26.

²———. This Month In Mining. V. 197, No.11, Nov. 1996, p. 26.

³American Metal Market. Lihir Gold Project Makes Progress. V. 104, No. 19, Nov. 11, 1996, p. 5.

⁴Platt's Metals Week. Hope Brook Gold Mine to Close. V. 67, No. 45, Nov. 11, 1996, p. 10.

⁵Journal of Metals. Businessline. V. 48, No. 11, Nov. 1996, p. 8.

⁶Platt's Metals Week. Gold Demand Down 3% on 1995 Levels: World Gold Council. V. 67, No. 47, Nov. 25, 1996, p. 1.

⁷Engineering & Mining Journal. This Month In Mining. V.197, No.11, Nov. 1996, p. 22.

⁸Metal Bulletin. Hotline. No. 8141, Dec. 31, 1996, p. 12.

⁹Platt's Metals Week. Russia's Gold Industry Badly Managed: Rudakov. V. 67, No. 45, Dec. 30, 1996, p. 1.

¹⁰International Precious Metals Institute. Economic Report. V. 20, No. 7, Nov.-Dec. 1996, p. 3.

¹¹The Northern Miner. Nelson Gold puts Jilau Mine back on-stream. V. 82, No. 44, Dec. 30, 1996, p. 1.

TABLE 1
MINE PRODUCTION OF RECOVERABLE GOLD AND SILVER IN THE UNITED STATES, BY STATE 1/

(Kilograms)

States	1995 2/	1995 p/			1996 p/			
		November	December	Jan. - Dec.	January	February	March	April
Gold:								
Arizona	1,920	235	233	2,780	236	229	178	161
California	26,200	1,940	1,730	20,200	2,110	1,940	2,210	2,250
Idaho	8,850	261	277	3,000	W	W	W	W
Montana	12,400	1,350	894	13,600	791	642	836	968
Nevada	213,000	20,200	19,900	222,000	15,400	16,000	17,400	16,400
Other States 3/	58,000	3,850	4,310	51,500	4,990	4,680	5,220	5,040
Total	320,000	27,800	27,300	313,000	23,600	23,500	25,900	24,800
					1996 p/			
	May	June	July	August	September	October	November	Jan. - Nov.
Arizona	168	117	119	158	228	223 r/	127	1,940
California	2,170	2,210	2,080	1,880	1,920	1,920	1,860	22,500
Idaho	W	W	W	W	W	W	W	W
Montana	959	703	987	1,010	968	1,140	943	9,940
Nevada	18,100	17,500	19,000	19,300	18,500	18,800	18,600	195,000
Other States 3/	4,860	4,960	4,990	5,250	5,580	5,320 r/	4,830	55,700
Total	26,300	25,500	27,200	27,600	27,200	27,400 r/	26,300	285,000
					1995 p/			
	1995 2/	November	December	Jan. - Dec.	January	February	March	April
Silver:								
Arizona	220,000	15,600	16,700	172,000	14,900	16,500	13,100	14,700
California	12,700	1,220	1,200	12,100	1,460	1,440	1,520	W
Idaho	182,000	12,400	12,700	161,000	14,100	14,800	16,600	11,300
Montana	76,100	7,360	6,780	75,800	5,820	5,140	W	W
Nevada	766,000	49,000	54,800	653,000	42,700	42,600	44,000	39,800
Other States 4/	380,000	24,300	28,800	382,000	30,400	25,700	34,900	40,100
Total	1,640,000	110,000	121,000	1,460,000	109,000	106,000	110,000	106,000
					1996 p/			
	May	June	July	August	September	October	November	Jan. - Nov.
Arizona	15,200	12,100	13,700	13,600	12,900	12,500 r/	13,600	153,000
California	1,990	1,570	1,990	1,470	1,330	1,450	1,340	15,600
Idaho	16,700	16,300	15,700	15,700	15,700	15,700	15,700	168,000
Montana	W	W	W	W	W	W	W	11,000
Nevada	49,400	57,700	55,300	53,900	57,200	67,500 r/	64,200	574,000
Other States 4/	34,500	39,800	38,400	45,800	37,500	35,800 r/	33,000	396,000
Total	118,000	127,000	125,000	130,000	125,000	133,000 r/	128,000	1,320,000

p/ Preliminary. r/ Revised. W Withheld to avoid disclosing company proprietary data; included in "Other States."

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ Includes annual reporters.

3/ Includes Alaska, Colorado, New Mexico, South Carolina, South Dakota, Utah, Wisconsin, and State indicated by symbol "W."

4/ Includes Alaska, Colorado, Michigan, Missouri, New Mexico, New York, South Carolina, South Dakota, Utah, Wisconsin, and States indicated by symbol "W."

TABLE 2
SELECTED PRECIOUS METAL PRICES

(Dollars per troy ounce)

	Gold	Silver	Platinum	Palladium
<u>Engelhard Industries:</u>				
<u>1995:</u>				
<u>Year:</u>				
Low/date	373.68 (Jan. 09)	4.39 (Mar. 03)	404.00 (Mar. 02)	130.00
High/date	396.87 (Apr. 19)	6.02 (May 04)	462.00 (May 04)	179.00
Average	385.50	5.21	425.36	153.34
<u>1996:</u>				
<u>October:</u>				
Low/date	379.94/01	4.83/31	381.00/30	117.00
High/date	384.20/28	5.07/16	389.00/10	122.00
Average	382.36	4.94	384.70	119.39
<u>November:</u>				
Low/date	374.28/27	4.72/26	377.00/27	117.00
High/date	384.90/13	4.95/20	389.00/12	122.00
Average	379.76	4.84	383.58	119.42
<u>December:</u>				
Low/date	368.67/03	4.67/03	368.00/16	117.00
High/date	372.18/04	4.88/27	375.00/04	119.00
Average	370.31	4.81	371.15	119.85
<u>Year to date:</u>				
Low/date	368.67(Dec. 03)	4.67(Dec. 03)	368.00(Dec. 16)	117.00
High/date	391.06(Aug. 05)	5.82 (Feb. 02)	433.00 (Feb. 05)	146.00
Average	389.17	5.20	397.97	130.39
<u>Handy and Harman:</u>				
<u>1995:</u>				
Average	384.22	5.19	XX	XX
<u>1996:</u>				
October	381.07	4.93	XX	XX
November	378.46	4.83	XX	XX
December	369.02	4.79	XX	XX
Year to date	387.81	5.18	XX	XX
<u>London Final:</u>				
<u>1995:</u>				
Average	384.16	5.22	XX	XX
<u>1996:</u>				
October	390.55	5.28	XX	XX
November	377.85	4.83	XX	XX
December	369.00	4.82	XX	XX
Year to date	387.70	5.20	XX	XX
XX Not applicable.				

Source: Platt's Metals Week.

TABLE 3
U.S. IMPORTS AND EXPORTS OF GOLD, BY COUNTRY 1/

(Kilograms of gold content, unless otherwise specified)

Country	Ores and concentrates 2/	Dore and precipitates	Refined bullion 3/	Total	Waste and scrap 4/ (gross weight)
Imports for consumption:					
1995:					
Year	5,020	9,820	111,000	126,000	14,400
1996:					
August	407	1,300	14,300	16,000	1,150
September	187	1,090	11,200	12,400	855
October:					
Brazil	--	--	1,380	1,380	--
Canada	--	600	7,070	7,670	71
Chile	--	508	--	508	51
Colombia	--	--	1,060	1,060	8
Dominican Republic	--	--	147	147	685
Mexico	215	543	1,480	2,240	107
Other	--	80	1,530	1,610	335
Total	215	1,730	12,700	14,600	1,260
Year to date	2,940	10,400	119,000	133,000	10,800
Exports:					
1995:					
Year	345	69,700	277,000	347,000 5/	74,700 5/
1996:					
August	54	4,670	33,200 5/	37,900	7,670
September	36	8,600	16,700	25,300	7,650
October:					
Canada	94	2,050	101	2,250	4,690
France	--	--	--	--	1,150
Germany	--	--	505	505	--
Hong Kong	--	--	1,000	1,000	85
Switzerland	--	3,220	8,130	11,300	--
Taiwan	--	--	2,020	2,020	--
United Kingdom	--	1,350	6,050	7,390	495
Other	2	1	632	635	184
Total	96	6,630	18,400	25,200	6,600
Year to date	270	51,500	383,000	435,000	79,000

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ Includes gold content of base metal ores, concentrates, and matte imported for refining.

3/ Bullion also moves in both directions between U.S. markets and foreign stocks on deposit in the Federal Reserve Bank. Monetary gold excluded.

4/ "Waste and scrap" not included in "Total."

5/ All or part of these data have been referred to the Bureau of the Census for verification.

Source: Bureau of the Census.

TABLE 4
U.S. IMPORTS AND EXPORTS OF SILVER, BY COUNTRY 1/

(Kilograms of silver content, unless otherwise specified)

Country	Ores and concentrates 2/	Dore and precipitates	Refined bullion	Total	Waste and scrap 3/ (gross weight)
Imports for consumption:					
1995:					
Year	225,000	395,000	2,630,000	3,250,000	2,140,000
1996:					
August	14,100	11,400	181,000	206,000	141,000
September	9,990	39,500	206,000	256,000	107,000
October:					
Canada	--	134	96,200	96,300	30,600
Chile	--	13,500	--	13,500	--
El Salvador	--	--	--	--	5,490
Germany	--	--	--	--	59,100
Israel	--	--	--	--	6,570
Malaysia	--	--	--	--	33,400
Mexico	11,800	614	86,000	98,400	11
Peru	--	2,480	25,500	28,000	--
Philippines	--	--	--	--	5,870
Portugal	--	--	--	--	21,000
Other	--	162	--	162	976
Total	11,800	16,900	208,000	236,000	163,000
Year to date	117,000	226,000	2,110,000	2,450,000	1,490,000
Exports:					
1995:					
Year	743	72,100	2,810,000 4/	2,880,000	1,580,000
1996:					
August	--	2890	284,000	287,000	111,000
September	34	1220	310,000	312,000	84,400
October:					
Belgium	--	--	18,300	18,300	19,400
Canada	--	--	11	11	44,300
China	--	--	--	--	11,600
France	--	--	--	--	1,600
Germany	--	3	--	3	3,950
Hong Kong	--	--	18,500	18,500	152
Japan	--	41	139	180	7,920
Singapore	--	--	55,800	55,800	--
Switzerland	--	--	207,000	207,000	486
Taiwan	--	1,110	--	1,110	--
Thailand	--	--	18,700	18,700	--
United Arab Emirates	--	--	68,800	68,800	--
United Kingdom	--	31	12,500	12,600	896
Uruguay	--	--	3,800	3,800	--
Other	--	185	--	185	647
Total	--	1,370	403,000	405,000	91,000
Year to date	795	34,300	2,790,000	2,830,000	1,110,000

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ Includes silver content of base metal ores, concentrates, and matte imported for refining.

3/ "Waste and scrap" not included in "Total."

4/ All or part of these data have been referred to the Bureau of the Census for verification.

Source: Bureau of the Census.

TABLE 5
U.S. IMPORTS AND EXPORTS OF PLATINUM-GROUP METALS, BY COUNTRY 1/

(Kilograms of metal content, unless otherwise specified)

Country	Ores and concentrates	Waste and scrap (gross weight)	Refined					Osmium	Ruthenium	
			Platinum	Palladium	Rhodium	Iridium				
Imports for consumption:										
1995:										
Year	123	6,350	71,500 2/	124,000	9,600	1,450		69	7,520	
1996:										
August	1,860	339	6,010	12,100	973	50		--	317	
September	--	744	5,870	8,420	670	172		--	638	
October:										
Canada	--	19	11	450	--	--		--	--	
Germany	--	--	248	120	44	9		--	142	
Norway	--	--	20	141	4	--		--	--	
Russia	--	--	1,060	10,700	103	--		--	--	
South Africa	--	100	3,940	2,410	317	37		--	1,450	
Switzerland	--	--	105	269	38	--		--	--	
United Kingdom	--	160	1,210	387	6	9		--	--	
Other	--	313	54	1,140	1	--		--	--	
Total	--	592	6,650	15,600	513	55		--	1,590	
Year to date	1,960	4,590	60,800	95,100	7,620	1,270		329	13,100	
Exports:										
1995:										
Year	598	8,150	19,900	26,000	742	85 3/				
1996:										
August	13	802	693	2,530	23	8 3/				
September	101	726	1,190	2,160	4	3 3/				
October:										
Belgium	--	--	195	274	--	--				
Canada	--	33	43	89	--	--				
France	--	--	4	10	--	--				
Germany	--	55	47	79	--	--				
Hong Kong	--	--	--	54	--	1 3/				
Japan	--	--	21	138	3	2 3/				
Korea, Republic of	--	--	222	149	2	1 3/				
Mexico	--	--	3	697	--	--				
Netherlands	--	--	2	398	--	--				
Switzerland	34	--	1	33	--	--				
Taiwan	--	--	8	100	--	--				
United Kingdom	--	424	423	368	1	--				
Other	--	--	275	72	--	1 3/				
Total	34	512	1,240	2,460	6	5 3/				
Year to date	328	6,500	11,400	21,100	177	94 3/				

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ Of this amount 1,070 kilograms was in the form of platinum coins.

3/ Includes osmium and ruthenium.

Source: Bureau of the Census.